

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

/ 1-11. (canceled)

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12. (currently amended) A method of providing a seal between first and second relatively rotatable parts of a mechanism used in an environment comprising pulverulent material entrained in a fluid, including the steps of:

providing a seal comprising a first element and a second element between which an annular passage is defined when the first element is mounted on one said part of the mechanism and the second element is mounted on the other said part of the mechanism and the one part is rotated with respect to the other, the annular passage being defined by interfacing surfaces of the respective elements between which there is [[a]] an initial clearance of substantially greater size than that of pulverulent material entrained in the fluid; and

depositing said pulverulent material ~~entrained in the fluid which enters into~~ the annular passage in layers which build up to form a labyrinthine passage having a width which is

C/ substantially smaller than ~~the clearance~~ said pulverulent material
so that substantially no further said pulverulent material can
flow through the annular passage and so as to substantially
restrict flow of the fluid through the annular passage when the
mechanism is in use.

13. (currently amended) Apparatus for providing a seal
between first and second relatively rotatable parts of a mechanism
used in an environment comprising pulverulent material entrained
in a fluid, the apparatus comprising:

a first element and a second element between which an
annular passage is defined when the first element is mounted on
one said part of the mechanism and the second element is mounted
on the other said part of the mechanism and the one part is
rotated with respect to the other,

wherein the annular passage is defined by interfacing
surfaces of the respective elements between which there is a
~~clearance~~ an initial clearance of substantially greater size than
that of pulverulent material entrained in the fluid and is such as
to enable said pulverulent material ~~entrained in the fluid~~ to
enter the annular passage when the apparatus is in use and to be
deposited in layers which build up so that there is formed between
the layers a labyrinthine passage having a width which is
substantially smaller than the ~~clearance between the interfacing~~

C1 surfaces size of said pulverulent material so that substantially
no further said pulverulent material can flow through the annular
passage and is such that the flow of fluid through the
labyrinthine passage is substantially restricted.

14. (canceled)

15. (currently amended) Apparatus according to claim
13, ~~CHARACTERIZED IN THAT~~ wherein one of the elements is provided
with an annular projection which in use projects into an annular
recess formed in the other element, the annular projection
embodying at least part of a first of the interfacing surfaces
and the annular recess embodying at least part of a second of the
interfacing surfaces.

16. (currently amended) Apparatus according to claim
13, ~~CHARACTERIZED IN THAT~~ wherein the ratio of the minimum value
of the clearance between the interfacing surfaces to the minimum
diameter of the annular passage is not substantially less than
1:150.

17. (currently amended) Apparatus according to claim
13, ~~CHARACTERIZED IN THAT~~ wherein the ratio of the length of the

C/ annular passage to the minimum diameter of the annular passage is not substantially less than 1:2.

18. (currently amended) Apparatus according to claim 13, ~~CHARACTERIZED IN THAT~~ wherein the ratio of the width of the widest of the interfacing surfaces to the minimum diameter of the annular passage is not substantially less than 1:20.

19. (currently amended) Apparatus according to claim 13, ~~CHARACTERIZED IN THAT~~ wherein the fluid is a gas.

20. (currently amended) Apparatus according to claim 13, ~~CHARACTERIZED IN THAT~~ wherein the fluid is a liquid.

21. (currently amended) Apparatus ~~according to claim 13, CHARACTERIZED IN THAT~~ for providing a seal between first and second relatively rotatable parts of a mechanism used in an environment comprising pulverulent material entrained in a fluid, the apparatus comprising:

a first element and a second element between which an annular passage is defined when the first element is mounted on one said part of the mechanism and the second element is mounted on the other said part of the mechanism and the one part is rotated with respect to the other,

C1 wherein the annular passage is defined by interfacing surfaces of the respective elements between which there is a clearance such as to enable pulverulent material entrained in the fluid to enter the annular passage when the apparatus is in use and to be deposited in layers which build up so that there is formed between the layers a labyrinthine passage having a width which is substantially smaller than the clearance between the interfacing surfaces and is such that the flow of fluid through the labyrinthine passage is substantially restricted, and

wherein the minimum value of the clearance between the interfacing surfaces is not substantially less than 0.4 mm.

22. (previously presented) Apparatus according to claim 13, in which a first member is provided which is located in the annular passage and which is constructed of material which is more susceptible to wear than the material of which the interfacing surfaces of the elements are constructed, there being clearance between the first member and the interfacing surfaces so that the first member is able to move both radially and axially in the annular passage.

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23. (currently amended) ~~Apparatus according to claim 13,~~
for providing a seal between first and second relatively rotatable
parts of a mechanism used in an environment comprising pulverulent
material entrained in a fluid, the apparatus comprising:

a first element and a second element between which an
annular passage is defined when the first element is mounted on
one said part of the mechanism and the second element is mounted
on the other said part of the mechanism and the one part is
rotated with respect to the other,

wherein the annular passage is defined by interfacing
surfaces of the respective elements between which there is a
clearance such as to enable pulverulent material entrained in the
fluid to enter the annular passage when the apparatus is in use
and to be deposited in layers which build up so that there is
formed between the layers a labyrinthine passage having a width
which is substantially smaller than the clearance between the
interfacing surfaces and is such that the flow of fluid through
the labyrinthine passage is substantially restricted, and

wherein the first element is a rotor and the second
element is a stator and further comprising second and third
members provided in the annular passage that are constructed of
material which is more susceptible to wear than the material of
which the interfacing surfaces of the elements are constructed,

C) the second member being seated on the stator and the third member being seated on the rotor so as to rotate therewith with respect to the second member, there being clearance between the second member and the third member so that the third member is able to move radially with respect to the second member when the rotor rotates.

24. (previously presented) Apparatus for providing a seal between first and second relatively rotatable parts of a mechanism used in an environment comprising pulverulent material entrained in a fluid, the apparatus comprising:

a first element and a second element between which an annular passage is defined when the first element is mounted on one said part of the mechanism and the second element is mounted on the other said part of the mechanism and the one part is rotated with respect to the other,

wherein the annular passage is defined by interfacing surfaces of the respective elements between which there is clearance and on which, when the mechanism is in use, the pulverulent material entrained in the fluid which enters the annular passage can be deposited in layers which substantially restrict flow of the fluid through the annular passage, and

wherein a first member is provided which is located in the annular passage and which is constructed of material which is

9 more susceptible to wear than the material of which the interfacing surfaces of the elements are constructed, there being clearance between the first member and the interfacing surfaces so that the first member is able to move both radially and axially in the annular passage.
